

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1.(Previously Presented) In a Set-Top Box configured with a modem and a Main Circuit Board where the Main Circuit Board is connected to the modem via an interconnection, a method of enabling the Main Circuit Board to determine the IP address of the modem, comprising:

at the modem:

periodically broadcasting a Discovery Packet over the interconnection from the modem to the Main Circuit Board, by addressing the Discovery Packet to a broadcast address that can be received by the Main Circuit Board, the Discovery Packet comprising at least the IP address of the modem in order to permit the Main Circuit Board to learn the modem's IP address; and

at the Main Circuit Board:

monitoring the interconnection for receipt of broadcast Discovery Packets addressed to the broadcast address;

receiving the broadcast Discovery Packet addressed to the broadcast address at the Main Circuit Board from the modem over the interconnection; and

ascertaining the IP address of the modem from the broadcast Discovery Packet.

2. (Original) The method according to claim 1, wherein the Discovery Packet further comprises an authentication code, and wherein the Main Circuit Board, upon receiving the Discovery Packet inspects the authentication code to assure that the IP address in the Discovery Packet originated at the modem.

3. (Original) The method according to claim 2, wherein the authentication code comprises a multiple character ascii character string.

4. (Original) The method according to claim 3, wherein the authentication code is encrypted.

5. (Original) The method according to claim 2, wherein the authentication code comprises a 10 character ascii character string.

Serial No.: 09/686,120

6. (Original) The method according to claim 5, wherein the authentication code is encrypted.
7. (Original) The method according to claim 1, wherein the Discovery Packet further comprises a status code indicative of a running status of the modem.
8. (Original) The method according to claim 7, wherein the status code is encrypted.
9. (Original) The method according to claim 7, wherein the status code comprises a four byte integer code representing the running status of the modem.
10. (Original) The method according to claim 9, wherein the status code is encrypted.
11. (Original) The method according to claim 7, further comprising displaying a status of the modem on a display connected to the Main Circuit Board.
12. (Original) The method according to claim 1, wherein the Discovery Packet is transmitted approximately every 30 seconds.
13. (Previously Presented) The method according to claim 1, wherein the modem comprises wherein the modem comprises one of a Cable Modem, a DSL modem and a Satellite modem.
14. (Previously Presented) The method according to claim 1, wherein the modem further includes a processor that controls functions of the modem and wherein the processor is a device separate from any processor device residing on the Main Circuit Board.
15. (Previously Presented) The method according to claim 1, wherein the Discovery Packet is communicated using User Datagram Protocol.

Serial No.: 09/686,120

16. (Previously Presented) The method according to claim 2, further comprising:

at a network device:

periodically broadcasting a Discovery Packet over an interconnection from the network device to the Main Circuit Board, by addressing the Discovery Packet to the broadcast address, the Discovery Packet comprising at least the IP address of the network device and a signature of the network device; and

at the Main Circuit Board:

monitoring the interconnection for broadcast Discovery Packets addressed to the broadcast address;

receiving the broadcast Discovery Packet addressed to the Main Circuit Board from the network device ; and

ascertaining the IP address of the network device from the broadcast Discovery Packet after authenticating the network device from the network device's signature.

17. (Currently Amended) A Set-Top Box, comprising:

a modem;

a Main Circuit Board interconnected to the modem via an interconnection;

said modem and Main Circuit Board residing within said Set-Top Box;

means, residing within said modem, for periodically transmitting a Discovery Packet from said modem to the Main Circuit Board by addressing the Discovery Packet to a broadcast address monitored by a programmed processor residing on said Main Circuit Board via the interconnection; and

wherein the Discovery Packet comprises at least an IP address of the modem in order to permit the Main Circuit Board to learn the modem's IP address.

18. (Original) The apparatus according to claim 17, wherein the Discovery Packet further comprises an authentication code, and wherein the Main Circuit Board, upon receiving the Discovery Packet inspects the authentication code to assure that the IP address in the Discovery Packet originated at the modem.

Serial No.: 09/686,120

19. (Original) The apparatus according to claim 18, wherein the authentication code comprises a multiple character ascii character string.
20. (Original) The apparatus according to claim 19, wherein the authentication code is encrypted.
21. (Original) The apparatus according to claim 18, wherein the authentication code comprises a ten character ascii character string.
22. (Original) The apparatus according to claim 21, wherein the authentication code is encrypted.
23. (Original) The apparatus according to claim 17, wherein the Discovery Packet further comprises a status code indicative of a running status of the modem.
24. (Original) The apparatus according to claim 23, wherein the status code is encrypted.
25. (Original) The apparatus according to claim 23, wherein the status code comprises a multiple byte integer code representing the running status of the modem.
26. (Original) The apparatus according to claim 23, wherein the status code comprises a four byte integer code representing the running status of the modem.
27. (Original) The apparatus according to claim 17, wherein the Discovery Packet is transmitted approximately every 30 seconds.
28. (Previously Presented) The apparatus according to claim 17, wherein the modem comprises one of a Cable Modem, a DSL modem and a Satellite modem.

Serial No.: 09/686,120

29. (Previously Presented) The apparatus according to claim 17, wherein the modem further includes a processor that controls functions of the modem and wherein the processor is a device separate from the programmed processor residing on the Main Circuit Board.
30. (Previously Presented) The apparatus according to claim 17, wherein the interconnection comprises one of a universal serial bus (USB) interconnection, an Ethernet interconnection and a PCI bus interconnection.
31. (Original) The apparatus according to claim 17, further comprising a display coupled to the Main Circuit Board.
32. (Previously Presented) The apparatus according to claim 17, wherein the means for periodically transmitting a Discovery Packet comprises a programmed processor forming a part of the modem, and which is distinct from any programmed processor residing on the Main Circuit Board.
33. (Previously Presented) The apparatus according to claim 18, further comprising:
a network device interconnected with the Main Circuit Board using an interconnection;
means, residing within said network device for periodically transmitting a Discovery Packet from said network device to said Main Circuit Board over said interconnection by addressing the Discovery Packet to a broadcast address monitored by the Main Circuit Board;
and
wherein the Discovery Packet comprises at least an IP address of the network device and a signature, wherein the Main Circuit Board distinguishes between the modem and the network device by the signature.
34. (Currently Amended) A Set-Top Box, comprising:
a modem;

Serial No.: 09/686,120

a Main Circuit Board having a first processor and interconnected to the modem via an interconnection, wherein the Main Circuit Board monitors the interconnection for packets addressed to a broadcast address;

wherein said modem and Main Circuit Board reside within said Set-Top Box;

a second programmed processor, residing within said modem, for transmitting a Discovery Packet from said modem to the broadcast address monitored by said Main Circuit Board via said interconnection at intervals of approximately 30 seconds;

wherein the Discovery Packet comprises an IP address of the modem, and an encrypted ten character ascii authentication code, and wherein the Main Circuit Board, upon receiving the Discovery Packet inspects the authentication code to assure that the IP address in the Discovery Packet originated at the modem;

and wherein the Discovery Packet further comprises a four byte integer status code indicative of a running status of the modem; and

a display, coupled to the Main Circuit Board, displaying the status of the modem determined by the Main Circuit Board by reading the four byte integer status code of the Discovery Packet.

35. (Previously Presented) The apparatus according to claim 34, wherein the modem comprises one of a Cable Modem, a DSL modem and a satellite modem.

36. (Previously Presented) The apparatus according to claim 34, wherein the Discovery Packet uses User Datagram Protocol.

37. (Previously Presented) The apparatus according to claim 34, wherein the interconnection comprises one of a universal serial bus (USB) interconnection, an Ethernet interconnection and a PCI bus interconnection.

38. (Withdrawn) In Set-Top Box configured with a modem and a Main Circuit Board, a method of enabling the Main Circuit Board to determine the IP address of the modem, comprising:

Serial No.: 09/686,120

establishing a predetermined relationship between a hardware address of the modem and a hardware address of the Main Circuit Board;

at the Main Circuit Board:

ascertaining the hardware address of the modem from the predetermined relationship;

sending a query from the Main Circuit Board to the hardware address of the modem requesting the modem's IP address; and

receiving a reply from the modem providing the modem's IP address to the Main Circuit Board.

39. (Withdrawn) The method according to claim 38, wherein the query and reply are carried out using Reverse Address Resolution Protocol.

40. (Withdrawn) The method according to claim 38, wherein the modem comprises a Cable Modem.

41. (Withdrawn) The method according to claim 38, wherein the modem comprises a DSL modem.

42. (Withdrawn) The method according to claim 38, wherein the modem comprises a satellite modem.

43. (Withdrawn) The method according to claim 38, further comprising:

establishing a predetermined relationship between a hardware address of a network device and a hardware address of the Main Circuit Board;

at the Main Circuit Board:

ascertaining the hardware address of the network device from the predetermined relationship;

Serial No.: 09/686,120

sending a query from the Main Circuit Board to the hardware address of the network device requesting the network device's IP address; and
receiving a reply from the network device providing the network device's IP address to the Main Circuit Board.

44. (Withdrawn) In Set-Top Box configured with first and second managed components and a control circuit, a method of enabling the control circuit to determine the IP address of the first and second managed components, comprising:

establishing a predetermined relationship between a hardware address of the first and second managed components and a hardware address of the control circuit;

at the Main Circuit Board:

ascertaining the hardware address of the first managed component from the predetermined relationship;

ascertaining the hardware address of the second managed component from the predetermined relationship;

sending a query from the Main Circuit Board to the hardware address of the first managed component requesting the first managed component's IP address;

receiving a reply from the first managed component providing the first managed component's IP address to the Main Circuit Board;

sending a query from the Main Circuit Board to the hardware address of the second managed component requesting the second managed component's IP address; and

receiving a reply from the second managed component providing the second managed component's IP address to the Main Circuit Board.

45. (Withdrawn) In a Set-Top Box configured with a modem and a Main Circuit Board, a method of enabling the Main Circuit Board to determine the IP address of the modem, comprising:

Serial No.: 09/686,120

establishing a predetermined relationship between a hardware address of the modem and a hardware address of the Main Circuit Board;

at the Main Circuit Board:

ascertaining the hardware address of the modem from the predetermined relationship;

at the modem:

receiving a query from the Main Circuit Board to the hardware address of the modem requesting the modem's IP address; and

sending a reply from the modem providing the modem's IP address to the Main Circuit Board.

46. (Withdrawn) The method according to claim 45, wherein the query and reply are carried out using Reverse Address Resolution Protocol.

47. (Withdrawn) The method according to claim 45, wherein the modem comprises a Cable Modem.

48. (Withdrawn) The method according to claim 45, wherein the modem comprises a DSL modem.

49. (Withdrawn) The method according to claim 45, wherein the modem comprises a satellite modem.

50. (Withdrawn) A Set-Top Box, comprising:

a modem;

a Main Circuit Board interconnected to the modem via an interconnection, the Main Circuit Board and the modem having hardware addresses which are related using a predetermined relationship;

Serial No.: 09/686,120

-10-

means, residing within said Main Circuit Board, for determining the modem's hardware address from the Main Circuit Board's address and the predetermined relationship;

means, residing within said Main Circuit Board, for transmitting a request from the Main Circuit Board to said modem over the interconnection using the hardware address of the modem, the request comprising a request for the modem's current IP address; and

means, residing within said Main Circuit Board, for receiving a reply from the modem containing the modem's current IP address.

51. (Withdrawn) The method according to claim 50, wherein the query and reply are carried out using Reverse Address Resolution Protocol.

52. (Withdrawn) The apparatus according to claim 50, wherein the modem comprises a Cable Modem.

53. (Withdrawn) The apparatus according to claim 50, wherein the modem comprises a DSL modem.

54. (Withdrawn) The apparatus according to claim 50, wherein the modem comprises a satellite modem.

55. (Withdrawn) The apparatus according to claim 50, further comprising a display, coupled to the Main Circuit Board, displaying the status of the modem.

56. (Withdrawn) The apparatus according to claim 50, wherein the modem includes a programmed processor.

57. (Withdrawn) The apparatus according to claim 50, wherein the Main Circuit Board includes a programmed processor.

Serial No.: 09/686,120

-11-

58. (Currently Amended) A Set-Top Box, comprising:

a managed component;

a Main Circuit Board interconnected to the managed component via an interconnection;
said managed component and Main Circuit Board residing within said Set-Top Box;

a Main Circuit Board interconnected to the managed component ~~modem~~ via an interconnection;

means, residing within said managed component, for periodically transmitting a Discovery Packet from said managed component to the Main Circuit Board by addressing the Discovery Packet to a broadcast address monitored by said Main Circuit Board via the interconnection; and

wherein the Discovery Packet comprises at least an IP address of the managed component in order to permit the Main Circuit Board to learn the managed component's IP address.

59. (Original) The apparatus according to claim 58, wherein the Discovery Packet further comprises an authentication code, and wherein the Main Circuit Board, upon receiving the Discovery Packet inspects the authentication code to assure that the IP address in the Discovery Packet originated at the managed component.

60. (Original) The apparatus according to claim 59, wherein the authentication code comprises a multiple character ascii character string.

61. (Original) The apparatus according to claim 59, wherein the authentication code is encrypted.

62. (Original) The apparatus according to claim 59, wherein the authentication code comprises a ten character ascii character string.

63. (Original) The apparatus according to claim 62, wherein the authentication code is encrypted.

Serial No.: 09/686,120

64. (Original) The apparatus according to claim 58, wherein the Discovery Packet further comprises a status code indicative of a running status of the managed component.
65. (Original) The apparatus according to claim 64, wherein the status code is encrypted.
66. (Currently Amended) A Set-Top Box, comprising:
first and second managed components;
a Main Circuit Board interconnected to the first and second managed components via an interconnection;
said first and second managed components and said Main Circuit Board residing within said Set-Top Box;
means, residing within each of said first and second managed components, for periodically transmitting a Discovery Packet from each said managed component to said Main Circuit Board by addressing the Discovery Packet to a broadcast address monitored by said Main Circuit Board via the interconnection; and
wherein the Discovery Packet comprises at least an IP address of the managed component from which it was transmitted in order to permit the Main Circuit Board to learn each managed component's IP address.
67. (Original) The apparatus according to claim 66, wherein the Discovery Packet further comprises an authentication code, and wherein the Main Circuit Board, upon receiving the Discovery Packet inspects the authentication code to determine which of the first and second managed components that the IP address in the Discovery Packet corresponds to.
68. (Original) The apparatus according to claim 67, wherein the authentication code comprises a multiple character ascii character string.
69. (Original) The apparatus according to claim 67, wherein the authentication code is encrypted.

Serial No.: 09/686,120

70. (Original) The apparatus according to claim 69, wherein the Discovery Packet further comprises a status code indicative of a running status of the managed component transmitting the discovery packet.

71. (Previously Presented) The apparatus according to claim 70, wherein the status code is encrypted.

72. (Previously Presented) The apparatus according to claim 66, wherein the Discovery Packet uses User Datagram Protocol.

73. (Previously Presented) The apparatus according to claim 66, wherein the interconnection comprises one of a universal serial bus (USB) interconnection, an Ethernet interconnection and a PCI bus interconnection.

74. (Previously Presented) The apparatus according to claim 58, wherein the Discovery Packet uses User Datagram Protocol.

75. (Previously Presented) The apparatus according to claim 58, wherein the interconnection comprises one of a universal serial bus (USB) interconnection, an Ethernet interconnection and a PCI bus interconnection.

76. (Currently Amended) In a Set-Top Box, a method comprising:
 providing a modem having a first internal programmed processor;
 providing a Main Circuit Board having a second programmed processor, said first and second programmed processors being separate physical devices;
 said modem and Main Circuit Board residing within said Set-Top Box;
 the modem being connected to the Main Circuit Board via an interface,
 at the modem:

Serial No.: 09/686,120

periodically broadcasting a Discovery Packet from the modem to the Main Circuit Board over the interface, wherein the Discovery Packet is addressed to a broadcast address that can be received by the Main Circuit Board, the Discovery Packet comprising at least the IP address of the modem in order to permit the Main Circuit Board to learn the modem's IP address; and

at the Main Circuit Board:

monitoring the interface for receipt of broadcast Discovery Packets addressed to the broadcast address;

receiving the broadcast Discovery Packet addressed to the broadcast address at the Main Circuit Board from the modem over the interface; and

ascertaining the IP address of the modem from the broadcast Discovery Packet.

77. (Previously Presented) The method according to claim 76, wherein the Discovery Packet further comprises an authentication code, and wherein the Main Circuit Board, upon receiving the Discovery Packet inspects the authentication code to assure that the IP address in the Discovery Packet originated at the modem.

78. (Previously Presented) The method according to claim 77, wherein the authentication code comprises a multiple character ascii character string.

79. (Previously Presented) The method according to claim 77, wherein the authentication code is encrypted.

80. (Previously Presented) The method according to claim 77, wherein the authentication code comprises a 10 character ascii character string.

81. (Previously Presented) The method according to claim 80, wherein the authentication code is encrypted.

Serial No.: 09/686,120

-15-

82. (Previously Presented) The method according to claim 80, wherein the Discovery Packet further comprises a status code indicative of a running status of the modem.
83. (Previously Presented) The method according to claim 82, wherein the status code is encrypted.
84. (Previously Presented) The method according to claim 82, wherein the status code comprises a four byte integer code representing the running status of the modem.
85. (Previously Presented) The method according to claim 84, wherein the status code is encrypted.
86. (Previously Presented) The method according to claim 82, further comprising displaying a status of the modem on a display connected to the Main Circuit Board.
87. (Previously Presented) The method according to claim 76, wherein the Discovery Packet is transmitted approximately every 30 seconds.
88. (Previously Presented) The method according to claim 76, wherein the modem comprises wherein the modem comprises one of a Cable Modem, a DSL modem and a Satellite modem.
89. (Previously Presented) The method according to claim 76, wherein the Discovery Packet is communicated using User Datagram Protocol.
90. (Currently Amended) A Set-Top Box, comprising:
a modem;
a Main Circuit Board interconnected to the modem via an interconnection;
said modem and Main Circuit Board residing within said Set-Top Box;

Serial No.: 09/686,120

means, residing within said modem, for periodically transmitting a Discovery Packet from said modem to said Main Circuit Board, wherein the means for periodically transmitting a Discovery Packet comprises a programmed processor; and
wherein the Discovery Packet comprises at least an IP address of the modem.

91. (Currently Amended) A Set-Top Box, comprising:

a modem;

a Main Circuit Board interconnected to the modem via an interconnection;

said modem and Main Circuit Board residing within said Set-Top Box;

a programmed processor, residing within said modem, for transmitting a Discovery Packet from said modem to said Main Circuit Board at intervals of approximately 30 seconds;

wherein the Discovery Packet comprises an IP address of the modem, and an encrypted ten character ascii authentication code, and wherein the Main Circuit Board, upon receiving the Discovery Packet inspects the authentication code to assure that the IP address in the Discovery Packet originated at the modem;

and wherein the Discovery Packet further comprises a four byte integer status code indicative of a running status of the modem; and

a display, coupled to the Main Circuit Board, displaying the status of the modem.

Serial No.: 09/686,120

-17-